

We claim:

Sub B<sub>1</sub>  
Sub A<sub>1</sub>

1. Protein fusions having a formula selected from the group consisting of E1-L<sub>n</sub>-E2 or E2-L<sub>n</sub>-E1, wherein E1 and E2 are selected from the group comprising β-ketothiolases, acyl-CoA reductases, PHA synthases, PHB synthetases, phasins, enoyl-CoA hydratases and beta-hydroxyacyl-ACP::coenzyme-A transferase, in which L<sub>n</sub> is a peptide of n amino acids that links E1 to E2 or E2 to E1.

2. The fusion of claim 1 selected from the group consisting of beta-ketothiolase (phbA) and acyl-CoA reductase (phbB); phbB and phbA ; PHA synthase (phaC) and phasin (phaP); phaP and phaC (1D); phaC and beta-hydroxyacyl-ACP::coenzyme-A transferase (phbG); phbG and phaC; phaC and enoyl-CoA hydratases (phaJ); and phaJ and phaC.

3. The fusion of claim 1 wherein n in the linker is between zero and 50 amino acids.

Sub B<sub>3</sub>

4. The fusion of claim 1 wherein the linker is glycine-serine.

5. The fusion of claim 1 expressed in a plant.

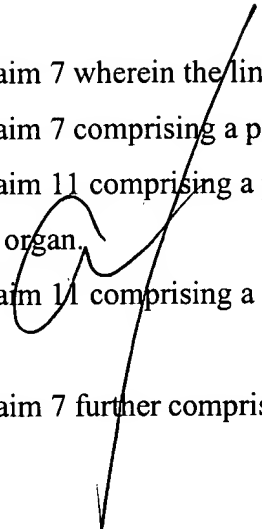
Sub E<sub>1</sub>

6. The fusion of claim 1 expressed in a bacteria.

7. A gene encoding protein fusions having a formula selected from the group consisting of E1-L<sub>n</sub>-E2 or E2-L<sub>n</sub>-E1, wherein E1 and E2 are selected from the group comprising β-ketothiolases, acyl-CoA reductases, PHA synthases, PHB synthetases, phasins, enoyl-CoA hydratases and beta-hydroxyacyl-ACP::coenzyme-A transferase, in which L<sub>n</sub> is a peptide of n amino acids that links E1 to E2 or E2 to E1.

8. The gene of claim 7 encoding a fusion protein selected from the group consisting of beta-ketothiolase (phbA) and acyl-CoA reductase (phbB); phbB and phbA ; PHA synthase (phaC) and phasin (phaP); phaP and phaC (1D); phaC and beta-hydroxyacyl-ACP::coenzyme-A transferase (phbG); phbG and phaC; phaC and enoyl-CoA hydratases (phaJ); and phaJ and phaC.

9. The gene of claim 7 wherein n in the linker is between zero and 50 amino acids.

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10. The gene of claim 7 wherein the linker is glycine-serine.
  11. The gene of claim 7 comprising a promoter for expression in plants.
  12. The gene of claim 11 comprising a promoter specific for expression in a tissue, plastid or other organ.
  13. The gene of claim 11 comprising a promoter specific for expression during a regulatory phase.
  14. The gene of claim 7 further comprising RNA processing signals or ribozyme sequences.

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